

CBO

TESTIMONY

Statement of
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on
DoD's Environmental Cleanup

before the
Subcommittee on Military Readiness
and Defense Infrastructure
Committee on Armed Services
United States Senate

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Mr. Chairman, I appreciate the opportunity to appear before your Subcommittee this morning to discuss the important issue of environmental restoration at Department of Defense (DoD) installations. In requesting testimony today, the Subcommittee expressed its concern about the rising costs and budgetary implications of environmental cleanup. For example, DoD cost estimates for its cleanup program have about doubled during the past five years. Funding for environmental restoration has also risen dramatically during the same period, but given the likely constraints on future budgets and the complexities of cleaning up thousands of contaminated facilities, DoD could have serious difficulties in meeting its program goals within the current budget plan.

The Congressional Budget Office (CBO) will soon provide the Committee with a report on DoD's environmental cleanup program. In our forthcoming study, we will discuss the size and nature of the cleanup job to be done, the progress made thus far, historical cost and budget figures, and alternative approaches to controlling costs. My testimony this morning will briefly summarize some preliminary results of our research in each of these areas.

THE SIZE OF THE CLEANUP PROBLEM

Environmental contamination is widespread on U.S. military bases, and DoD's knowledge of the extent of the problem has grown significantly during the past decade. The number of potentially contaminated sites identified by DoD increased more than threefold during the 1987-1992 period. Today, almost 19,000 potentially contaminated sites are known to exist on defense facilities in the United States. The number of identified sites that present major hazards--those listed on the National Priorities List (NPL)--jumped from 29 to 101 since 1987.

Further increases of these magnitudes, however, are not likely. During the 1990-1992 period, the total number of sites rose by only 8 percent, and the number of NPL sites increased only slightly during the same period. Nevertheless, DoD continues to identify a limited number of new sites each year, particularly on bases that are scheduled to be closed. Such sites can be troublesome since local authorities and interest groups are often anxious to reuse defense facilities and want to minimize the time required to remediate contaminated property planned for transfer or sale.

Although contaminated sites can be found in all 50 states, they are concentrated in those states in which defense installations have played an

important role in the economy. California, Texas, Pennsylvania, Virginia, and New York top the list with the greatest number of contaminated sites.

THE NATURE OF THE CLEANUP PROBLEM

DoD facilities are contaminated by a wide spectrum of pollutants, some of which are unique to the military, but most of which are common to those found on civilian property. For example, the most common contaminants currently found on some 5,000 sites are petroleum, oil, and lubricants. However, the department must also remediate uniquely military contaminants such as unexploded ordnance and chemical explosives that are particularly difficult and costly to clean up.

Except for those with buried ordnance, the types of sites requiring cleanup are also typical of those found in the civilian sector. Thousands of contaminated storage areas, underground storage tanks, landfills, lagoons, spill sites, buildings, waste treatment plants, and groundwater aquifers must be cleaned up on defense facilities. The technologies that are currently available to solve these problems in the civilian sector also apply to DoD facilities. More significantly, research and development (R&D) efforts for new technologies are under way within DoD, other agencies, and the commercial sector. One way for the Congress to help control the future costs of cleanup

would be to ensure that such efforts are coordinated in order to avoid duplication and make the most efficient techniques for remediation available to all agencies.

THE STATUS OF CLEANUP EFFORTS

Since the cleanup program has cost about \$10 billion since its inception, many people have rightfully asked how much cleanup has been accomplished. The answer, quite simply, is that very little cleanup has been completed. CBO estimates that only about 2 percent of the contaminated sites that could be considered for remedial action--that is, those sites that have not been closed out during some earlier phase of the cleanup process--have been cleaned up. It is important to note, however, that DoD has undertaken or completed almost 1,000 interim remedial actions at nearly 400 installations that have reduced the immediate risks of existing contamination until more permanent steps can be taken.

Most of the work accomplished to date has involved locating and characterizing contaminated sites in order to plan and carry out effective remediation. Virtually all of the preliminary assessment work has been completed--some 97 percent of the total population of 18,795 sites have completed the first phase of the cleanup process. In contrast, however, very

few sites--only about 4 percent, by CBO's estimate--have completed even the middle stage of the cleanup process, the remedial investigation/feasibility study phase during which sites are characterized and plans for remediation are made. Thus, although DoD now knows much more about the job to be done than it did 10 years ago, almost all of the technical work that is essential to actually cleaning up the facilities has yet to be completed.

LIKELY COSTS OF CLEANUP

The cleanup program will certainly cost much more than DoD originally thought. In 1988, DoD estimated that the program would cost between \$14 billion and \$18 billion in 1994 dollars. In 1992, the department estimated that it would cost \$26.6 billion in 1994 dollars. According to the most recent DoD estimates, the program could cost as much as \$30 billion. CBO will provide this Committee with an analysis of the potential costs of the program in our forthcoming study.

Costs have grown dramatically for a variety of reasons, but particularly because the number of potentially contaminated sites has increased more than threefold since 1987. In some cases, costs have grown because DoD has been required to meet more stringent cleanup standards or use more expensive technology than initially planned. In fact, cleanup standards and remediation

methods are matters for negotiation among interested parties, including the states and the Environmental Protection Agency. In addition, current cost estimates are higher since more is known about the extent and nature of contamination and the cost of technology than was the case during the 1980s.

Unanticipated cost growth has occurred most visibly for bases that are scheduled to close. In DoD's recent review of cleanup costs for bases being closed, 34 of 49 installations reported higher costs than initially estimated. The median cost increase for these bases was about 50 percent; average costs were higher by some 60 percent.

DoD has significantly increased its environmental cleanup budget--defined here as the Defense Environmental Restoration Account and the remediation portion of the Base Realignment and Closure Account--to provide full funding for its cleanup requirements. The cleanup budget increased some eightfold in 1994 dollars between 1984 and 1992 and has continued to grow significantly in recent years. Spending for cleanup increased from \$680 million in 1990 (in 1994 dollars) to about \$2.6 billion in 1994. Funding for cleanup, however, especially for research and development on remediation, remains a very small part of the defense budget. In 1988, funding for environmental restoration programs totaled about one-tenth of 1 percent of DoD's Total Obligational Authority. Last year, spending for

environmental restoration programs barely exceeded 1 percent of DoD's budget.

Funding for environmental restoration has remained at about 50 percent of total spending for environmental programs since 1992. As more projects move into the remediation stage, however, greater pressures will exist to expand cleanup funding, perhaps at the expense of other environmental programs. Spending on research and development of remedial technologies has been virtually nil, although new technologies offer the best long-run hopes of containing cost growth. DoD plans to spend an average of about \$23 million a year on R&D for remediation during the next several years, but acknowledges that such a low level of R&D spending would leave many projects without funding.

The cleanup cost and budget picture for the near term is not bright. Projected costs have continued to increase as DoD has discovered additional sites and contaminants on its installations. New technologies that could reduce costs have been slow in coming and gaining acceptance. In addition, stricter cleanup standards than planned could add significant costs. DoD may have to pay substantial amounts to reimburse defense contractors for contamination generated while meeting contract requirements, and ultimately the department has to assume certain costs of indemnifying contractors

undertaking remediation. Finally, DoD faces the cost of cleaning up bases selected to be closed in a new round of base closures and realignments scheduled for 1995.

MEETING CLEANUP REQUIREMENTS WITHIN FUTURE BUDGET CONSTRAINTS

The issue of how to meet cleanup requirements given future tight budgets could easily be the topic of a separate hearing, but let me outline a few thoughts on general approaches to this problem. CBO will address these points in more detail in our forthcoming study.

In the short term, DoD and the Congress might seek ways to revise cleanup priorities to achieve near-term savings. They could choose to give funding priority to the most seriously contaminated sites, particularly those on the National Priorities List, and to bases being closed that communities are anxious to reuse. If the cost of the cleanup program becomes unaffordable within budgetary constraints, other cleanup projects may have to be delayed in order to fund these priorities fully. Delays could be arranged for isolated contaminated sites where the risk of endangering public health and safety is small. Certain types of expensive remediation, such as for cleaning up unexploded ordnance sites, could be delayed indefinitely while more efficient

remediation technologies are developed. Obviously, such sites would have to be managed to ensure public safety is maintained.

In the longer term, DoD should seek ways to improve the characterization of contaminated sites. If this task is accomplished more efficiently and more accurately, it could achieve major cost reductions in the cleanup phase itself. It may also be possible to reduce overhead costs by streamlining the contracting and project management processes.

Ultimately, long-term cost control will depend on successfully developing more efficient ways to remediate contaminants. Reports of potential savings through new technologies are highly promising, but many projects remain in the laboratory stage and have yet to be tested and applied in the field. DoD has accomplished a great deal in organizing its research and development efforts to avoid duplication and assign responsibility. Much R&D work, however, is also under way in other agencies and in the civilian sector on which DoD may capitalize.

In conclusion, Mr. Chairman and Members of the Subcommittee, let me summarize my thoughts for you. DoD is just now beginning to embark on a massive cleanup program for which it has been gathering important and useful data for the past 10 years. The remediation work planned for DoD

installations, with few exceptions, is the same as that being done in the private sector. Few requirements for cleanup are unique to DoD. The data CBO has gathered indicate that the cost of cleaning up a site is typically higher than originally estimated and that budgetary requests for the cleanup program are higher than planned in prior years. CBO believes that future costs of the cleanup program are likely to exceed DoD's ability to meet requirements. It is incumbent upon DoD and the Congress to begin to examine policy and budgetary choices about how to meet such circumstances should they come to pass.